MESSRS.

SPECIFICATION   FOR   APPROVAL
承　认　书

Product	DYNAMIC SPEAKER
Part No.	HDK-3608BB-31W (RoHS)
Customer	
Customer Part No.	

Approved By	Checked By	Made By
王台平	曹丽萍	LILY
MAY-15-2015	MAY-15-2015	MAY-15-2015

常 州 华 龙 电 子 有 限 公 司
DRAGONSTATE   ELECTRONIC   CORPORATION

EDITION:1.1

1.SPECIFICATION

	ITEM	SPECIFICATIONS	
01	Type	Dynamic speaker	
02	Dimension	External diameter 36 mm	
03	Rated Input Power	1.0W	
04	Max. Input Power	1.2W	
05	Impedance	8 ohm ± 15% at 1500Hz.	
06	Resonance Frequency (Fo)	500Hz ± 20% at Fo, 1V	
07	Sensitivity (S.P.L.)	88dB(0.1W/0.1m) ± 3 dB	at AVE1.0KHz.
08	Frequency Range	Fo – 10KHz	
09	Total Harmonics Distortion	Max 8 % at 1 KHz,1.0W.	
10	Voice Coil	Diameter 13.3 mm	
11	Magnet	Rare earth permanent (Nd-Fe-B) magnet Φ12.0 x 1.6 mm	
12	Weight	8.0g ± 0.2g	
13	Appearance	Should not exist any obstacle to be harmful to normal operation; damages, cracks, rusts and distortions, etc.	
14	Operation Test	Must be normal at program source – 1.0W	
15	Buzz, Rattle, etc.	Should not be audible at 2.83V sine Wave between Fo to 20KHz	
16	Polarity	When positive voltage is applied to the terminal marked (+), diaphragm should move to the front.	
17	Terminal Strength	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.	
18	Temperature	Operating temperature: -20℃ to +60℃ Storage temperature: -30℃ to +70℃	

Test Condition
STANDARD

Temperature : 15 ~ 35℃

Relative humidity : 25% ~ 85%,
Atmospheric pressure : 860mbar to 1060mbar.
BASIC

Temperature : 20±3℃

Relative humidity : 60% ~ 70%,
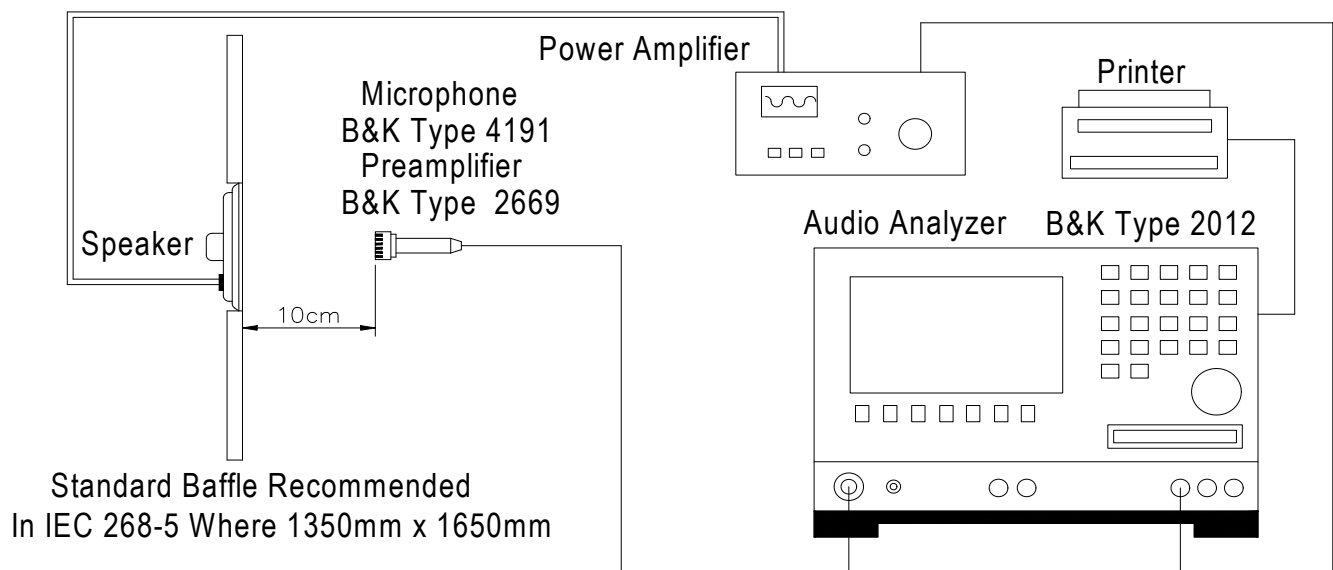Atmospheric pressure : 860mbar to 1060mbar

Standard Test Fixture
1.Input Power : 1.0W (2.83V)
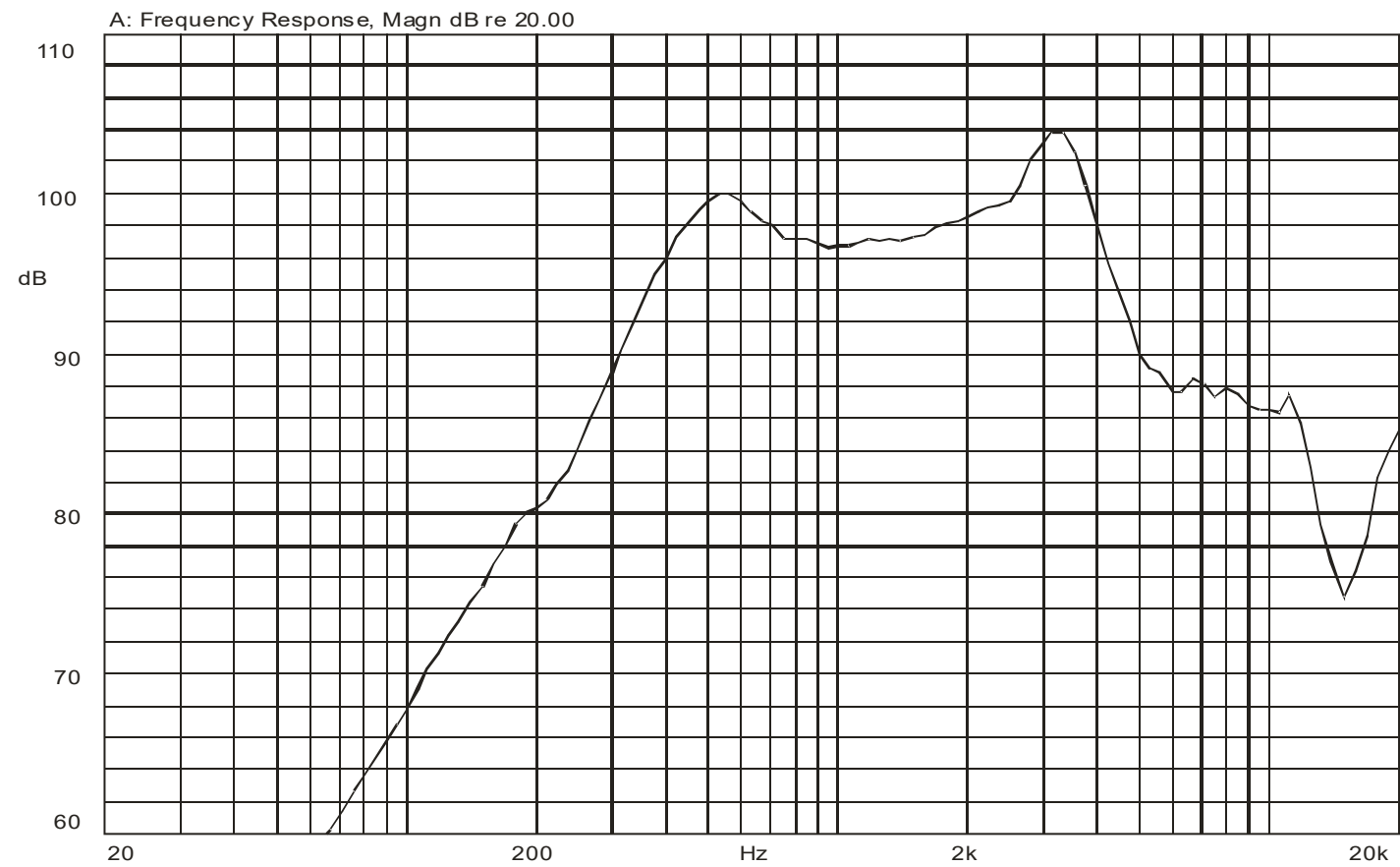2.Zero Level : -dB
3.Mode : SPEAKER
4.potentiometer Range : 50dB
5.Sweep Time : 0.5sec

Power Amplifier

Microphone
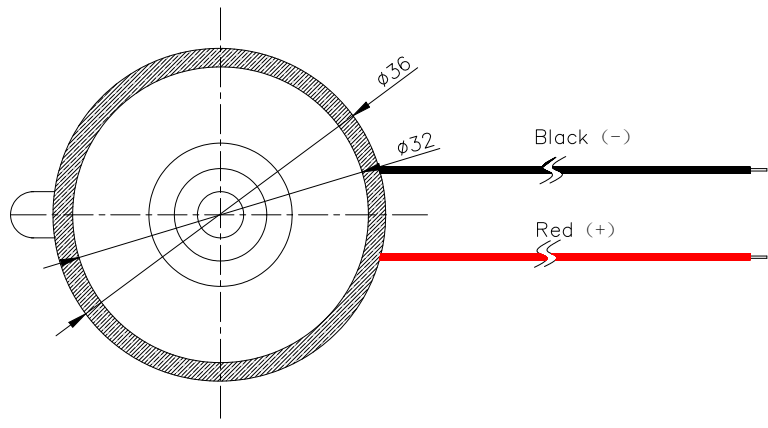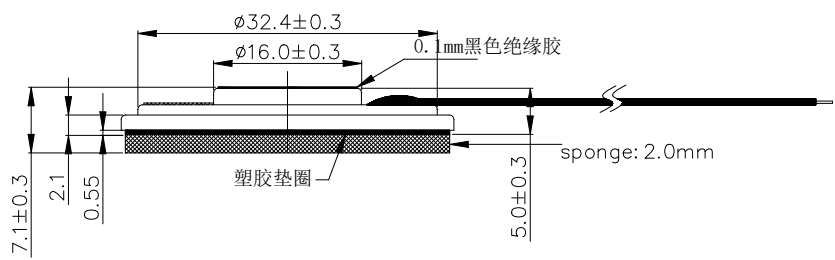B&K Type 4191
Preamplifier
B&K Type 2669

Printer

Audio Analyzer   B&K Type 2012

Speaker

10cm

Standard Baffle Recommended
In IEC 268-5 Where 1350mm x 1650mm

Frequency Response Curve   1W/10cm

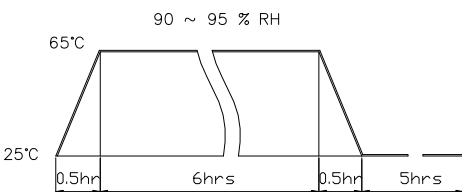X:1.2500kHz   *Y:97.11dB   ZA:Live Curve   SSR Fund.

A: Frequency Response, Magn dB re 20.00

Mode: SPEAKER

REV NO.	REVISION NOTE	APPROVAL	DATE

Cloth

Black glue

1.5±0.5

⌀36±0.5

45±3

⌀32.4±0.3

⌀16.0±0.3

0.1mm黑色绝缘胶

sponge: 2.0mm

塑胶垫圈

7.1±0.3

2.1

0.55

5.0±0.3

⌀36

⌀32

Black (-)

Red (+)
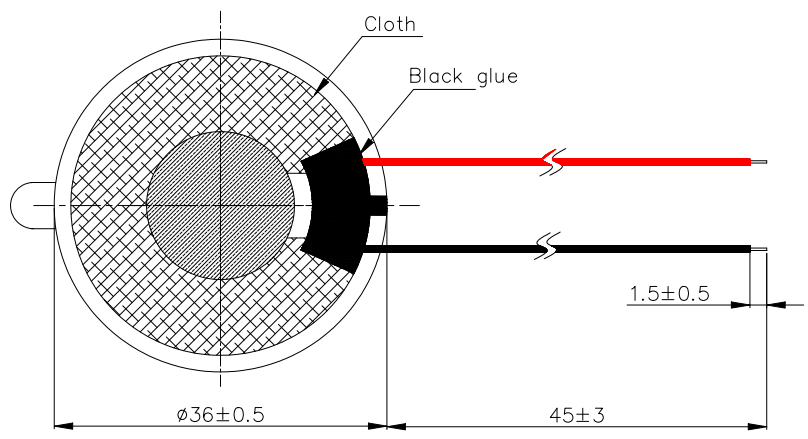
DIAPHRAGM: MYLAR
CAST: FE ALLOY
WIRE: UL1571 AWG30

TITLE:	DYNAMIC SPEAKER		DRAWN: Lily	2015/05/15	SCALE: 1/1	SHEET: 1 OF 1
PART NO.	HDK-3608BB-31W	1	DESIGNED: R&D OF D.S.		UNITS: mm	
			CHECKED: Emily		TOLERANCE ± 0.5	
DWG NO.	DSE-1811		APPROVAL: Eric		UNLESS OTHERWISE SPECIFIED: ONE PLACE DECIMAL ± ***	
		REV	MATERIAL: Fe alloy		TWO PLACE DECIMAL ± *** THREE PLACE DECIMAL ± ***	

DS DRAGONSTATE ELECTRONIC CORPORATION

RELIABLITY TESTS

	Items.	Specifications
01	**High temp. Test**	Keep 96 hours at +70℃±3℃ and leave 3 hours in normal temperature and then check
02	**Low temp. Test**	Keep 96 hours at -30℃±3℃ and leave 3 hours in normal temperature and then check
03	**Humidity test**	Keep 96 hours at + 60℃±3℃ relative humidity 95% and leave 3 hours in normal temperature and then checked.
04	**Temp./Humidity cycle**	The part shall be subjected 5 cycles. One cycle shall be 12 hours and consist of; 90 ~ 95 % RH 65℃ 25℃ 0.5hr 6hrs 0.5hr 5hrs
05	**Thermal cycle test.**	Low temperature: -30℃±3℃, temperature:+70℃±3℃, cycle: 1 hour/cycle each, and then keep 5 cycles in a room.
06	**Vibration**	10~200~10Hz sin-wave sweep 15min. 5G(constant) X,Y, Z 3 direction. 2 hours each, total 6 hours.
07	**Fix drop test**	Fix on jig. Then drop from 152cm height to the concrete floor X, y, z 6 direction. 5 times each, total 30 times.
08	**Free drop test**	Free drop from 100cm height to the concrete floor X, y, z 6 direction. 1 times each, total 6 times.
09	**Rated Power test**	Rated Power white noise is applied for 96 hours
10	**Max Power test**	Max power 1 min on – 2 min off 10 cycles.
11	**Terminal strength test**	Capable of withstand 1kg load for 30 seconds without resulting in any damage or rejection.

Criterion:

After these test , the change of S.P.L shall be within ±3 dB .

SOLDERING CONDITION

Recommend using constant branding iron in **15 ~ 30W**, and in temperature range **350°C**.
Soldering time not over **3** seconds.